



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/699,434	10/31/2003	John Michael O'Brien	108650-135084	2893
25943	7590	06/21/2005	EXAMINER	
SCHWABE, WILLIAMSON & WYATT, P.C. PACWEST CENTER, SUITE 1900 1211 SW FIFTH AVENUE PORTLAND, OR 97204			MAKI, STEVEN D	
		ART UNIT		PAPER NUMBER
				1733

DATE MAILED: 06/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/699,434	O'BRIEN, JOHN MICHAEL	
	<b>Examiner</b> Steven D. Maki	<b>Art Unit</b> 1733	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on \_\_\_\_.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_ is/are allowed.
- 6) Claim(s) 1-5 is/are rejected.
- 7) Claim(s) \_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
 Paper No(s)/Mail Date 122004.
- 4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date. \_\_\_\_.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: \_\_\_\_.

1) The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2) Claim 4 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 4 is indefinite because it is unclear if a system or a process is being claimed. The preamble's description of "system" indicates that a system is being claimed. However, the body of the claim, which lists method steps instead of components of a system, indicates that a process is being claimed. In claim 4, it is suggested to change "A system for tire stud extension and retraction which comprises:" to --A process for making a tire structure which comprises:--.

3) The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4) The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

O'Brien 451

5) **Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over O'Brien 451 (US 5810451) in view of Yadegar (US 5411070), Kalavitz et al (US 4583566) and German 500 (DE 3721500).**

O'Brien 451, directed to selectively activating anti-skid means, discloses a tire mounted on a rim, a "primary chamber" defined by the tire and the rim, an expandable retractable portion having studs 20, a "secondary chamber" 106 under the expandable retractable portion and a valve stem / valve mechanism 110. The valve is used to supply air from a "known air source" to the secondary chamber 106 to extend the studs. O'Brien 451 does not recite providing a three way valve enabling selective communication.

As to claim 5, it would have been obvious to one of ordinary skill in the art *to use a three way valve enabling selective connection as between (a) ambient air outside the wheel and the secondary chamber and (b) air under pressure in the primary chamber and the secondary chamber (enabling venting to outside the tire or inflation using the air in the tire)* as O'Brien's valve for supplying / relieving pressure from air line 108 connected to the secondary chamber since (1) Yadegar, also directed to selectively activating anti-skid means, suggests using a **valve (92,96)** to selectively (a) supply air from a tire to chambers for extending pins (studs) to avoid the necessity of using air compressors or compressed air cylinders and (b) releasing air to the atmosphere (col. 4 lines 63-68, col. 5 lines 25-34, figure 24) or (2) Kalavitz et al, directed to a pressure control system for a tire, suggests using a **three way valve** to selectively (a) supply air

Art Unit: 1733

for inflation to an air line or (b) exhaust air from the air line for deflation (col. 8 lines 55-68, col. 9 lines 1-3).

As to the location of the valve, it would have been obvious to one of ordinary skill in the art locate the valve "within the primary chamber" since German 500, also directed to selectively activating anti-skid means, suggests locating a valve 12 in a primary air chamber (see figures 1, 2, 5 and 6).

Liebig

6) **Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Liebig (WO 90/15725).**

Liebig discloses a tire comprising a tread, sidewalls, carcass, belt, and bead portions (figure 4). The tire is mounted on a rim (figure 4). The tread comprises a channel formed in the tread surface (figure 4). A "strip" 18 is located in the channel wherein the strip 18 comprises studs 15 and chambers 20, 21 for extension and retraction, respectively of the studs (figure 4, abstract). A first passage extends from the channel through the casing (figure 4). An air line 11, within the primary chamber" (defined by the tire interior surface and rim), connects the "secondary chamber" (20, 21) to a "second passage" extending through the casing near the bead portion (figure 4, abstract). Within the primary chamber of the tire, the air line 11 extends along the interior surface of the tire.

As to claim 1, the claimed tire structure is anticipated by the tire shown in figure 4 of Liebig. The claimed air line reads on air line 11. The limitations of the tread being "bonded" to the tire casing and the air line being "bonded" to the interior wall of the

casing are inherent in Liebig's pneumatic tire having a tread, sidewalls, carcass, belt, and bead portions. One of ordinary skill in the art would readily understand that a pneumatic tire having a tread, sidewalls, carcass, belt, and bead portions is a laminate structure (bonded structure).

**7) Claims 1 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liebig in view of at least one of Orr (US 1948311), Clark (Mechanics of Pneumatic Tires) and O'Brien et al 564 (US 6905564).**

Liebig is considered to anticipate claim 1. In any event: It would have been obvious to one of ordinary skill in the art to make Liebig's tire as shown in figure 4 such that the strip 18 is bonded to the tread, the tread is bonded to the casing and the air line is bonded to the interior wall of the casing since (1) Liebig teaches and shows the tire as comprising components including a tread, sidewalls, carcass, belt, bead portions, strip 18 and air line 11 and (2) it is well known / conventional to make a pneumatic tire suitable for effective tire performance by assembling tire components and vulcanizing the tire such that the components are bonded together as evidenced by at least one of Orr (page 2 lines 27-36, 132-142), Clark (figure 4.13, figure 4.17, page 225) and O'Brien et al 564 (figure 5, figure 10, column 3).

As to claim 4, at least one of Orr, Clark and O'Brien et al 564 motivate one of ordinary skill in the art to vulcanize (cure) the tire structure. As to placing a tread strip having studs in the circular channel, Liebig shows a strip 18 having studs 15 inserted in a circular channel in the tread. Also see Orr's teaching to obtain a strip inserted in a tread by inserting the strip in a groove (circular channel) of the tread or O'Brien et al

564's teaching to insert rubber segment 32 into a circular channel in a tread strip. As to the tread being bonded to the tire casing, at least one of Orr, Clark and O'Brien et al 564 teach bonding a tread to a casing and Clark notes that during the building stage, tire components adhere to each other due to self tack. The steps of forming first and second air passages, extending an air line and providing a valve unit would have been obvious in view of Liebig's teaching to extend the air line through the casing to the channel containing the strip 18 (figure 4), extend the air line 11 along the interior of the tire (figure 4), extend the air line through the casing substantially adjacent the bead portion (figure 4) and provide a valve 9.

8) **Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Liebig in view of at least one of Orr, Clark and O'Brien et al 564 as applied above and further in view of Yadegar and optionally Kalavitz et al.**

As to claim 2, it would have been obvious to one of ordinary skill in the art to use a **multifunctional valve** enabling selective connection as between (a) ambient air outside the wheel and the secondary chamber and (b) air under pressure in the primary chamber and the secondary chamber (enabling venting to outside the tire or inflation using the air in the tire) as Liebig's valve for supplying / relieving pressure from air line 11 connected to the secondary chamber since (1) Yadegar, also directed to selectively activate anti-skid means, suggests using a **valve (92,96)** to selectively (a) supply air from a tire to chambers for extending pins (studs) to avoid the necessity of using air compressors or compressed air cylinders or (b) releasing air to the atmosphere (col. 4 lines 63-68, col. 5 lines 25-34, figure 24) and optionally (2) Kalavitz et al, directed to a

pressure control system for a tire, suggests using a **three way valve** to selectively (a) supply air for inflation to an air line or (b) exhaust air from the air line for deflation (col. 8 lines 55-68, col. 9 lines 1-3). As to remote control activation, Yadegar suggests controlling the valve remotely through a transmitter (col. 4 lines 4-11).

9) **Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Liebig in view of at least one of Orr, Clark and O'Brien et al 564 and in view of Yadegar and optionally Kalavitz et al as applied above and further in view of Hamilton et al (US 2004/0007302).**

As to claim 3, the limitation of the valve unit including an air pump and air pressure would have been obvious in view of (1) Yadegar's teaching to inflate the tire (supply air to the primary chamber) using an air pump, which is *actuated by rotation* of the tire and is provided with a pressure controlling device (col. 5 lines 25-35) and (2) Hamilton et al's suggestion to monitor and maintain tire pressure using a pump (*powered during rotation* by a liquid fly wheel) and a pressure sensor.

Remarks

10) Voelkel et al (US 2841199) is of interest for teaching a valve for using tire pressure to supply air to a traction increasing assembly.

The remaining references are of interest.

11) No claim is allowed.  
12) Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven D. Maki whose telephone number is (571) 272-1221. The examiner can normally be reached on Mon. - Fri. 7:30 AM - 4:00 PM.

Art Unit: 1733

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Blaine Copenheaver can be reached on (571) 272-1156. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Steven D. Maki  
June 18, 2005

*Steven D. Maki*  
6-18-05  
STEVEN D. MAKI  
PRIMARY EXAMINER  
-GROUP 1300-  
AU 1733